

[0064] As shown in Fig. 14, in the same manner as the First Embodiment, the spring securing plate 38 is fixed between the spring housing 39 and the holder 6 so as to be prevented from the relative rotation. An inner spring ring 12 is rotatably supported by the rotor shaft 4 inside the spring housing 39. The protrusions 12a are formed at one side of the inner spring ring 12 shown in Fig. 17A and Fig. 17B, and spaced 180 degrees apart from each other. A hole 12b penetrates through one of the protrusions 12a. The inner spring ring 12 is disposed so as to be spaced from a spring securing plate 38, rotatably supported by the rotor shaft 4. An inner coil spring (elastic member) 11 is mounted between the inner spring ring 12 and the spring securing plate 38. One end of the inner coil spring 11 is inserted in the hole 12b, and the other end thereof is inserted in the hole (not shown in the Figures) formed at the spring securing plate 38.

[0075] The rotary actuator of the present invention can be applied not only to valves, such as throttle body valves, pressure control valves, proportional bypass valves, but also to various fields, such as peripheral devices for driving a drive of a computer, rudder control of missiles or vehicles, automatic payment machines, control of laser beam deviation, direction control of parabolic antennas of man-made satellites, direction control of solar power generators, control of automatic tracking apparatuses of cameras.

Respectfully submitted,

Date: September 30, 2005

  
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